

and 15 are the only independent claims rejected under § 103(a) based on those references, and Applicant respectfully traverses the § 103(a) rejection of independent claims 1 and 15 because the final Office Action fails to establish a case of *prima facie* obviousness. For example, there is no suggestion to modify the Yoshimatsu '742 reference in the rejection statement's proposed, hypothetical manner based on the Krusche reference at least because the prior art does not recognize the rejection statement's asserted functional equivalence, and there is no suggestion or motivation to modify the Yoshimatsu '742 reference in the rejection statement's proposed, hypothetical manner based on the Yoshimatsu '266 reference at least because the proposed modification would require changing the principle of operation of the Yoshimatsu '742 reference's disclosed system.

In the final Office Action, the rejection statement asserts that "[s]ince the connection between the pilot relief valve and the tank of Yoshimatsu (5,063,742) and Krusche are functionally equivalent; it would have been obvious . . . to connect the second flow line of Yoshimatsu (5,063,742) to the motor return flow line, as taught by Krusche, as a matter of engineering expediency." Id. at 4. Further, in the final Office Action's Response to Amendment section, it asserts that "[s]ince the pilot pumps of Yoshimatsu (5,063,742) and Krusche perform the same function of supplying pilot pressure to pilot valves for directional control valves, and the pressure relief valves of Yoshimatsu (5,063,742) and Krusche both perform the same function of limiting the pilot pressure to be less than a certain value; the statement of functional equivalence [in the Office Action dated August 31, 2004,] is correct and the rejection is proper." Id. at 2.

Applicant respectfully disagrees with the final Office Action's above-outlined assertions at least because the final Office Action has failed to show that there is any legally sufficient suggestion or motivation to combine the Yoshimatsu '742 and Krusche reference teachings in the rejection statement's proposed, hypothetical manner.

According to the guidance of the M.P.E.P., "[t]o establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." § 2143. The M.P.E.P. further advises that "[t]he teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in applicant's disclosure." Id. (citation omitted). In addition, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." § 2143.01 (citation omitted) (emphasis in original). Furthermore, "[i]n order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." § 2144.06 (citation omitted) (emphasis added).

Applicant respectfully submits that the assertions included in the rejection statement and the Response to Amendments section about how the connection between the pilot relief valve and the tank of Yoshimatsu '742 and the Krusche are allegedly "functionally equivalent" are not supported by any disclosure contained in the prior art. In other words, the final Office Action has not identified any source of evidence suggesting that the alleged functional equivalence has any recognition in the

prior art. Rather, the assertions appear to be relying solely on either Applicant's disclosure or a completely unsupported "functionally equivalent" allegation. Since neither of those sources of support are legally sufficient under the guidance of the M.P.E.P., the final Office Action cannot rely on the functional equivalence assertion as rationale sufficient to support the 35 U.S.C. § 103(a) claim rejection based on the Yoshimatsu '742 reference in combination with Krusche and Yoshimatsu '266. As a result, there is no legally sufficient suggestion or motivation to make the final Office Action's proposed, hypothetical modification to the Yoshimatsu '742 reference. Therefore, the final Office Action has failed to establish a *prima facie* case of obviousness.

In addition to the final Office Action lacking any legally sufficient suggestion or motivation to modify the Yoshimatsu '742 reference based on the Krusche reference, the final Office Action also lacks any legally sufficient suggestion or motivation to make the final Office Action's proposed, hypothetical modification based on the Yoshimatsu '266 reference.

In the rejection statement, the final Office Action concedes that the Yoshimatsu '742 reference does not disclose "[a] main [pressure] relief valve [that] is a combination main relief valve and bypass valve." Final Office Action at 3. The rejection statement, however, asserts that the Yoshimatsu '266 reference discloses a "main relief valve [(17) that] is a combination main relief and bypass valve (17 in combination with 18), for the purpose of unloading the pressure source, when not needed to provide pressurized fluid (e.g., column 4 line 2-8)." Id. at 4. The rejection statement thereafter asserts that "[i]t would have been obvious . . . to make the main pressure relief valve of

Yoshimatsu (5,063,742) . . . a combination main relief and bypass valve . . . for the purpose of unloading the pressure source, when not needed to provide pressurized fluid.” Id. at 4.

Applicant respectfully disagrees with the rejection statement’s assertion about modifying the Yoshimatsu '742 in the hypothetical manner proposed at least because, even if for the sake of argument such a modification could be made, it would require changing the principle of operation of the Yoshimatsu '742 reference.

The M.P.E.P. advises “[t]he mere fact that references can be combined or modified does not render the resultant combination [or modification] obvious unless the prior art also suggests the desirability of the combination [or modification].” § 2143.01 (emphasis in original) (citation omitted). Furthermore, the M.P.E.P. advises that “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” § 2143.02 (citation omitted). Since the Yoshimatsu '742 and Yoshimatsu '266 references do not suggest the desirability of the rejection statement’s proposed, hypothetical modification to Yoshimatsu '742’s disclosure, and since the proposed modification would require changing Yoshimatsu '742’s principle of operation even if there were a suggestion of the desirability, the final Office Action has failed to establish a case of *prima facie* obviousness.

The rejection statement fails to identify any suggestion of the desirability of modifying the Yoshimatsu '742 reference’s disclosure to include a combination main relief and bypass valve as asserted in the rejection statement. Rather, the rejection

statement apparently relies merely on its assertion that the Yoshimatsu '742 and Yoshimatsu '266 references are in the same field of endeavor such that the purpose disclosed in Yoshimatsu '266 would have been recognized in the pertinent art of Yoshimatsu '742. See Final Office Action at 4. The rejection statement and the Yoshimatsu '742 and '266 references, however, fail to provide any suggestion of a desirability of making the rejection statement's proposed, hypothetical modification. For at least that reason, there is no legally sufficient suggestion or motivation to make the rejection statement's proposed hypothetical modification to the Yoshimatsu '742 disclosure.

In addition, making the rejection statement's proposed, hypothetical modification to the Yoshimatsu '742 reference would require changing its principle of operation. The Yoshimatsu '742 reference discloses a hydraulic control system including a purely mechanical control system for controlling swing motion of a revolving superstructure. In particular, the Yoshimatsu '742 reference discloses a main relief valve 12 having a pre-set relief pressure P_M of 210 kg/cm^2 , which is connected to a line 11 that is connected to a discharge port of a main hydraulic pump 1. (Col. 5, lines 37-39.) The main relief valve 12 operates to limit the pressure applied to port 3a of hydraulic motor 3 to the pre-set relief pressure of P_M (210 kg/cm^2) of the main relief valve 12 while the hydraulic motor 3 is driven. (Col. 7, lines 20-27.)

The Yoshimatsu '266 reference, on the other hand, discloses an electronic slewing control device for a crane. The Yoshimatsu '266 reference discloses a main circuit 10 connected to a discharge opening of a hydraulic pump 1. (Col. 3, lines 66-67.) An inlet port of a slewing unit U is connected to the main circuit 10, and a main relief

valve 17 is connected to the main circuit 10. (Col. 3, line 68, through col. 4, line 2.) A vent circuit of the main relief valve 17 includes an electromagnetic selector valve 18, which can select either an on-load position where the vent circuit is blocked by the valve 18 to on-load the hydraulic pump 1 or an unload position where the vent circuit is in communication with a tank 7 to unload the hydraulic pump 1. (Col. 4, lines 2-8.) The Yoshimatsu '266 reference further includes an electronic controller 8, which receives detection signals from detectors and determines a slewing stop timing, and when a slewing stop signal is generated, the controller 8 outputs a selected signal to the electromagnetic selector valve 18. (Col. 5, lines 9-19.) During slewing acceleration and inertial slewing, when an automatic stop signal is output from the controller 8, the electromagnetic selector valve 18 is activated such that the discharge oil is unloaded from the hydraulic pump 1 to the tank 7. (Col. 8, lines 59-64.)

In short, the Yoshimatsu '742 reference relates to a purely mechanical control system for controlling swing motion of a slewing mechanism. The main relief valve 12 of Yoshimatsu '742 operates to limit the pressure applied to port 3a of hydraulic motor 3 to the pre-set relief pressure of P_M (210 kg/cm²). The Yoshimatsu '742 reference does not disclose an electronic controller and is controlled by purely mechanical control mechanisms. In contrast, the Yoshimatsu '266 reference relates to an electrohydraulic control system including a controller 8 for controlling a slewing mechanism. The main relief valve 17 of Yoshimatsu '266 includes an electromagnetic selector valve 18, which is controlled via signals from an electronic controller 8 such that the discharge oil is unloaded from a hydraulic pump 1 to a tank 7. Therefore, even if for the sake of argument the electromagnetic selector valve 18 of Yoshimatsu '266 were somehow

incorporated into Yoshimatsu '742's disclosed mechanical system, the Yoshimatsu '742 system's principle of operation would need to be changed from mechanical control to electronic control in order to properly control the electromagnetic valve 18. Since its principle of operation would need to be changed, there is no legally sufficient suggestion or motivation to make the rejection statement's proposed, hypothetical modification to the Yoshimatsu '742 disclosure based on the teachings of Yoshimatsu '266. For at least this reason, the final Office Action has failed to establish a *prima facie* case of obviousness.

For at least the reasons outlined above, the final Office Action has failed to establish a *prima facie* case of obviousness. In particular, there is no legally sufficient suggestion or motivation to make the final Office Action's proposed, hypothetical modification to the Yoshimatsu '742 reference based on the Krusche reference at least because the prior art does not recognize the rejection statement's asserted functional equivalence. Furthermore, there is no legally sufficient suggestion or motivation to make the final Office Action's proposed, hypothetical modification to the Yoshimatsu '742 reference based on the Yoshimatsu '266 reference at least because such a modification would require changing the Yoshimatsu '742 reference's principle of operation. Therefore, Applicant's independent claims 1 and 15 are patentably distinguishable from the Yoshimatsu '742, Krusche, and Yoshimatsu '266 references, taken individually or in combination.

II. Dependent Claim Rejections

The final Office Action also rejects claims 5, 7, 9, 10, 12-14, and 21 under 35 U.S.C. § 103(a) based on Yoshimatsu '742, Krusche, and Yoshimatsu '266 along with Chung (U.S. Patent No. 5,673,605) and "a further teaching of" Krusche. Final Office Action at 4. Claims 5, 7, 9, 10, 12-14, and 21 depend from either allowable independent claim 1 or allowable independent claim 15. Therefore, those dependent claims should be allowable for at least the same reasons independent claims 1 and 15 are allowable.

III. Conclusion

For at least the reasons set forth above, independent claims 1 and 15 should be allowable. Dependent claims 4, 5, 7, 9, 10, 12-14, 16, and 21 depend from one of independent claims 1 and 15. Consequently, those dependent claims should be allowable for at least the same reasons their corresponding independent claim is allowable.

Therefore, Applicant respectfully requests the reconsideration of this application, the withdrawal of the outstanding claim rejections, and the allowance of claims 1, 4, 5, 7, 9, 10, 12-16, and 21.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicant's undersigned attorney at 571-203-2739.

Applicant respectfully submits that the final Office Action contains numerous assertions concerning the related art and the claims. Regardless of whether those

assertions are addressed specifically herein, Applicant respectfully declines to automatically subscribe to them.

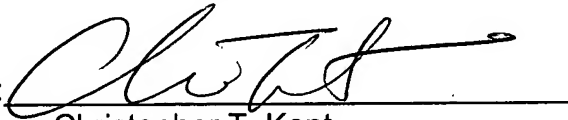
Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 6-0916.

Respectfully submitted,

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